

**Piezoelectric component production by sol-gel coating of a metal substrate**

**Patent number:** DE19744630  
**Publication date:** 1999-06-24  
**Inventor:** MERKLEIN STEPHAN DR RER NAT (DE)  
**Applicant:** FRAUNHOFER GES FORSCHUNG (DE)  
**Classification:**  
- **international:** H01L41/08; B06B1/06  
- **european:** H01L41/24  
**Application number:** DE19971044630; 19971009  
**Priority number(s):** DE19971044630; 19971009

**Abstract of DE19744630**

Piezoelectric components are produced by applying a coating sol of a hydrated lead salt, zirconium and titanium alcoholates and a complexing agent onto an electrically conductive substrate, and then heat treating. Piezoelectric components are produced by: (a) preparing a storable solid precursor of a coating sol of a hydrated lead salt, a zirconium alcoholate and a titanium alcoholate by using a complexing agent and carrying out a hydrolysis reaction and vacuum extraction of solid constituents; (b) dissolving the solid precursor in a solvent; (c) applying the resulting sol as one or more layers on one or both sides of an electrically conductive substrate of steel, Ti, Cr, Ni or their alloys; (d) heat treating the layer(s); and (e) applying one or more electrodes onto the resulting thin ferroelectric layer or multilayer system.

---

Data supplied from the **esp@cenet** database - Worldwide